



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/593,978

09/22/2006

Hayato Yoshino

1018773-000046

3260

21839 7590 05/14/2009  
BUCHANAN, INGERSOLL & ROONEY PC  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER

DESAI, NAISHADH N

ART UNIT

PAPER NUMBER

2834

NOTIFICATION DATE

DELIVERY MODE

05/14/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,978	<b>Applicant(s)</b> YOSHINO ET AL.	
	<b>Examiner</b> NAISHADH N. DESAI	<b>Art Unit</b> 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/02/2008</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 12/02/2008 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landgraf (US 4322665) in view of Hoffmeyer (US 3942055).

2. Regarding claim 1, Landgraf teaches:

A single-phase motor comprising (abstract, line 1):

a stator including a stator iron core formed by laminating a plurality of electromagnetic steel sheets (Col 3 ll 46-50) and provided with a slot and single-phase

Art Unit: 2834

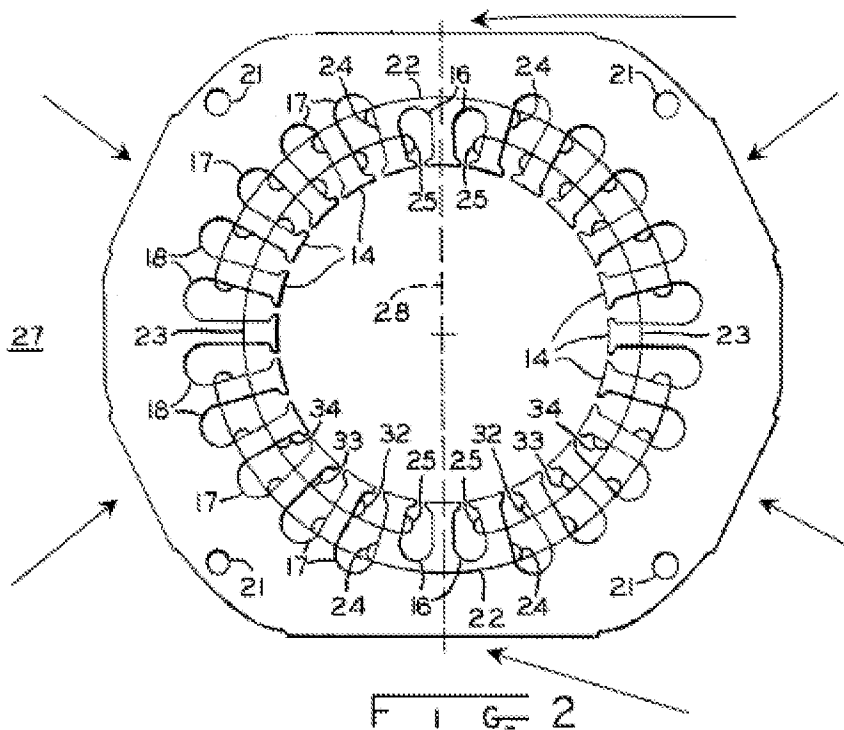
two-pole distributed windings composed of a main winding and an auxiliary winding contained in the slot (abstract and Col 3 ll 57-65);

a rotor placed through a gap on an inner circumference of the stator (Col 3 ll 46-57),

Landgraf does not appear to clearly teach:

said stator iron core consisting of six notches, each notch formed by a single uninterrupted roughly straight line on an outer circumference edge of the stator iron core, so that a quadrangle is formed by straight lines including four notches out of the six notches.

Hoffmeyer teaches a motor having a stator core (Fig 2,27) consisting of six notches (Fig 2, arrows below), each notch formed by a single uninterrupted roughly straight line on an outer circumference edge of the stator iron core (Fig 2, arrows below), so that a quadrangle is formed by straight lines including four notches out of the six notches (Fig 2, arrows below).



It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Landgraf with the teachings of Hoffmeyer to make a stator core having six notches wherein each notch is formed by a single uninterrupted roughly straight line on an outer circumference edge of the stator iron core such that a quadrangle can be formed by straight lines including four notches out of the six notches. The motivation to do so would be that it would allow one to minimize the amount of core material used to manufacture the motor (Col 2 ll 19-20 of Hoffmeyer).

3. Regarding claim 2, Hoffmeyer (arrows in Fig 2 above) teaches that the single-phase motor comprises six notches, so that a rectangle or a square is formed by straight lines including four notches out of the six notches.

Art Unit: 2834

4. Regarding claim 3, Hoffmeyer teaches that the stator iron core is provided with a plurality of slots (Fig 2,16-18), among a plurality of slots, at an outer circumferential side of which a notch is not placed, at least one slot is made to have a deeper depth in a radial direction (Fig 2,17) than a slot at an outer circumferential side of which a notch is placed (Fig 2,16), so that a large slot and a small slot are formed (Fig 2,16,17).

5. Regarding claim 4 Hoffmeyer (Figs 2 and 3) teaches that a winding to be contained in the large slot has a higher cross section ratio for a slot area than a winding to be contained in the small slot.

6. Regarding claim 5, Landgraf (Fig 3) and Hoffmeyer (abstract) teaches that an outer winding of a concentric main winding is inserted in the large slot.

7. Regarding claim 6 in case of inserting windings, the main winding is inserted after the auxiliary winding is inserted to the slot.

In regards to claim 6, the method of making limitations are not germane to the patentability of the apparatus and have not been given patentable weight. The patentability of the product does not depend on its method of production. If the product in the product by process claim is the same or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process". In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966(Fed. Cir. 1985). In this instance the case it is obvious to change the sequence of how the windings are inserted into the slots to ease manufacturing of the device.

8. Regarding claim 7, Landgraf (Col 5 line 20 and Col 6 ll 42-45) teaches a hermetic compressor comprising the single-phase motor of claim 1.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Landgraf (US 4322665) in view of Takeda et al (US 5796190).

9. Regarding claim 8, Landgraf teaches:

A single-phase motor comprising (abstract):

a stator including a stator iron core formed by laminating a plurality of electromagnetic steel sheets and provided with a slot between each of a plurality of stator teeth (Col 3 ll 46-50 and Fig 2), and

single-phase two-pole distributed windings composed of a main winding and an auxiliary winding contained in the slot (abstract and Col 3 ll 57-65);

a rotor placed through a gap on an inner circumference of the stator (Col 3 ll 46-57), and

a plurality of evenly spaced semicircular notches having an approximately same width as the stator teeth and each provided at an outer side of each of the plurality of stator teeth on an outer circumference of the stator iron core (Fig 2,5 appears to teach a plurality of semicircular notches, however perhaps not inherently uniformly distributed or evenly spaced).

Landgraf does not literally teach that that there are “a plurality of evenly spaced semicircular notches having an approximately same width as the stator teeth and each

Art Unit: 2834

provided at an outer side of each of the plurality of stator teeth on an outer circumference of the stator iron core". Takeda et al (Fig 3a,111c,111e) clearly teaches the use of "a plurality of evenly spaced semicircular notches having an approximately same width as the stator teeth and each provided at an outer side of each of the plurality of stator teeth on an outer circumference of the stator iron core". It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Landgraf with the teachings of Takeda et al to make the stator have a plurality of evenly spaced semicircular notches having an approximately same width as the stator teeth and each provided at an outer side of each of the plurality of stator teeth on an outer circumference of the stator iron core. The motivation to do so would be that it would allow easier assembly and accurate mounting of the device (Col 3 ll 9-12 of Takeda et al).

Prior art teaches the use of notches on the stator, whether it is of a particular shape is a matter of obvious engineering design choice based on the configuration of the stator's size/shape as well as the location of the rotor, the shaft and housing. The motivation would be based on the parameters of space availability, location of the rotor with respect to the stator, as well as size/ and shape of the stator and housing, to determine the size and shape of the notches. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955)

10. Regarding claim 9, Landgraf (Col 5 line 20 and Col 6 ll 42-45) teaches a hermetic compressor comprising the single-phase motor of claim 8.



11. Regarding claim 10, Landgraf (Fig 3a, 111c, 111e) teaches that each semicircular notch is aligned with a respective stator tooth so that their centers are substantially located on the same radial axis

***Response to Arguments***

12. Regarding applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

13. Regarding applicant's argument for claims 8 and 9 have been considered, but are not persuasive. Applicant's argument that Takeda et al's Fig 2, the bolt holes element 111e are not semicircular and that they are used for fixing the stator core to the housing is not persuasive, because examiner also cited element 111c, which clearly is also part of the stator core and may be used for a different purpose.

In response to applicant's argument that Takeda et al's Fig 2, the bolt holes element 111e are not semicircular and that they are used for fixing the stator core to the housing, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Takeda et al teaches the structural limitation "semi circular notches" regardless if it is used for cooling the stator or to secure the stator. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed

Art Unit: 2834

does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

### **Conclusion**

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on (571) 272-8188. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2834

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen Leung/  
Supervisory Patent Examiner, Art Unit 2834

NND